

REMARKS

Claims 1, 3-6, 9-17, and 19-26 are currently pending in the subject application, and are presently under consideration. Claims 1, 3-6, 9-17, and 19-26 are rejected. Claims 9-11 have been cancelled. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

I. Rejection of Claims 9-11 Under 35 U.S.C. §102(b)

Claims 9-11 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,323,396 to Lokhoff ("Lokhoff"). Claims 9-11 have been cancelled, thus rendering this rejection moot.

II. Rejection of Claims 12, 13, 20, and 21 Under 35 U.S.C. §102(b)

Claims 12, 13, 20, and 21 stand rejected under 35 U.S.C. §102(b) as being anticipated by "OFDM With Reduced Peak-to-Average Power Ration by Multiple Signal Representation", ovl. 52, no. 1/2, 2/1997, XP 000991143 by Muller, et al. ("Muller") in view of U.S. Patent No. 6,294,956 to Ghanadan, et al. ("Ghanadan"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

In the Office Action dated April 24, 2008 (hereinafter "Office Action"), the Examiner maintains that Muller discloses a plurality of replica signals, each of the plurality of replica signals having a maximum peak value below the maximum peak value of the input signal, as recited in claim 12. Representative for Applicant respectfully disagrees. Muller that each of V pairwise disjointed sub-blocks are divided in such a way that every used subcarrier within the OFDM symbol is represented in exactly one of the V sub-blocks (Muller, Section V.1). FIG. 4 of Muller demonstrates three sub-blocks, with only one of the sub-blocks including a given portion of the signal at any given time (Muller, FIG. 4; Section V.1). As evident from FIG. 4, the three sub-blocks are in no way identical or even similar to each other, such that they could be considered replicas with respect to each other or to the original signal. At no point does Muller disclose or imply that the sub-blocks are or could be identical based on the disclosure in Muller

that every used subcarrier within the OFDM symbol is represented in *exactly one* of the V sub-blocks (Muller, Section V.1; emphasis added). If the sub-blocks were indeed replicas with respect to each other and the original signal, then every used subcarrier within the OFDM symbol would be represented in all of the V sub-blocks. Therefore, Muller fails to teach that a plurality of replica signals that each have a maximum peak value below the maximum peak value of the input signal, as recited in claim 12.

In addition, Muller teaches that the partial transmit sequences that each have the applied rotation vectors are provided to an adder which adds them together to produce the composite peak-reduced signal \tilde{a}_u (Muller, FIG. 5). Therefore, Muller also does not teach a signal combiner that sequentially orders the plurality of replica signals for transmission, as recited in claim 12. Instead, Muller teaches that each of the partial transmit sequences are combined together, and not sequentially ordered. The Examiner failed to address this argument, submitted originally in the Response to the Office Action dated October 26, 2007, in the Office Action dated April 24, 2008. Accordingly, Muller does not anticipate claim 12. Withdrawal of the rejection of claim 12, as well as claim 13 which depends therefrom, is respectfully requested.

Claim 13 depends from claim 12, which is not anticipated by Muller for the reasons described above. Therefore, claim 13 should likewise be allowed over the cited art. In addition, claim 13 recites that the instruction signal informs a receiver of at least one of the number of replica signals and scaling associated with the replica signals. Muller teaches that side information of a set of rotation factors is transmitted to the receiver (Muller, Section V.2). However, because Muller does not teach that peaks are reduced based on the scaling of the replica signals, or that the replica signals are sequentially ordered for transmission, Muller likewise does not teach that the instruction signal informs a receiver of at least one of the number of replica signals and scaling associated with the replica signals, as recited in claim 13. Therefore, Muller does not anticipate claim 13. Withdrawal of the rejection of claim 13 is respectfully requested.

Claim 20 recites modifying an input signal into a plurality of replica signals, each of the plurality of replica signals having a peak value below the maximum peak value of the input

signal, and sequentially ordering the plurality of replica signals into a transmission signal. For the reasons described above regarding claim 12, Muller does not anticipate claim 20. Withdrawal of the rejection of claim 20, as well as claim 21 which depends therefrom, is respectfully requested.

III. Rejection of Claims 14, 15, 17, 19, and 22 Under 35 U.S.C. §102(b)

Claims 14, 15, 17, 19, and 22 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Publication No. 2004/0086054 by Corral ("Corral"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

It is respectfully submitted that Corral is not prior art against the subject application under 35 U.S.C. §102(e) as the invention recited in claims 14, 15, 17, 19, and 22 was conceived by Ian Robinson and Frank Winter, the inventors of record for the subject application, before the October 31, 2002, filing date of Corral. Further, the inventors, assignee, and their representatives were diligent in reducing the invention to practice from at least the October 31, 2002, date until the invention was constructively reduced to practice via the filing of the subject application on June 26, 2003.

It is respectfully submitted that the declarations signed by the inventors and the supporting exhibits demonstrate conception of the invention prior to October 31, 2002, and diligence in reducing the application to practice. Specifically, Exhibit A is an invention disclosure, dated October 5, 2002, that describes the claimed invention in considerable detail. The October 5, 2002, date of Exhibit A predates the October 31, 2002, critical date of Corral. It is respectfully submitted that the invention disclosure, specifically the fifth paragraph under the heading "Inventive Concept" beginning on page 4 of 7 and continuing to page 5 of 7 and the first six paragraphs under the heading "Invention Description and Operation" on page 5 of 7 provides adequate support for at least claims 14, 15, 17, 19, and 22 to allow one skilled in the art to practice the claimed invention. Exhibit B, dated November 27, 2002, is another draft of the invention disclosure that describes the claimed invention in more detail. Specifically, the fifth paragraph under the heading "Inventive Concept" on page 5 of 9, the first six paragraphs under

the heading "Invention Description and Operation" beginning on page 5 of 9 and continuing into page 6 of 9, and Figure 1 on page 7 of 9 further allow one skilled in the art to practice the claimed invention.

It is respectfully submitted that Exhibits C and D demonstrate that Northrop Grumman prepared letters and forwarded accompanying additional invention disclosures to Representative for Applicant along with instructions for preparing patent applications. Specifically, Exhibit C is a letter dated December 9, 2002, requesting preparation of patent applications for Northrop Grumman Docket Nos. 20-0191, 48-0042, 48-0040, 48-0041, and 48-0045. Exhibit D is a letter dated December 24, 2002, requesting preparation of patent applications for Northrop Grumman Docket Nos. 48-0043, 48-0046, and 48-0049. Exhibit E is an email to Representative for Applicant describing the procedures conducted on the invention disclosure of the Present Application (Exhibit B) prior to Representative for Applicant receiving the invention disclosure of the Present Application.

The assignee provided the invention disclosure to Representative for Applicant along with instructions to prepare a patent application on or about January 27, 2003. Representative for Applicant docketed the application in accordance with standard procedures and prepared backlogged cases in chronological order, as indicated by Exhibit G. Representative for Applicant then proceeded to complete a draft of the application by May 8, 2003, as evidenced by Exhibits H and I. Mr. Robinson reviewed the draft and communicated his changes to the first draft sometime prior to June 21, 2003, when applicants' representatives e-mailed a second draft to him, as evidenced by Exhibit J. The application was finalized shortly thereafter.

On June 23, 2003, formal papers (*e.g.*, a declaration of invention and an assignment) were e-mailed to Mr. Robinson and Mr. Winter in the e-mail provided as Exhibit K. The inventors reviewed the finalized application, signed the formal papers, and mailed them back to Representative for Applicant. The signed formal papers were received on or before June 26, 2003, and the application was filed on this date.

It is respectfully submitted that the foregoing demonstrates conception of the invention prior to the filing date of Corral and diligence from at least the filing date of Corral to the filing

date of the subject application. Specifically, the 37 CFR 1.131 affidavit submitted herewith and the attached exhibits demonstrate diligence from at least the filing date of Corral to the filing date of the subject application based on the conducting of the normal course of business in which it is not required that an attorney or inventor drop all other work and concentrate on the subject invention. See, e.g., *Keizer v. Bradley*, 270 F.2d 396, 397, 123 USPQ 215, 216 (CCPA 1959)) and *Emery v. Ronden*, 188 USPQ 264, 268 (Bd. Pat. Inter. 1974). It is thus respectfully requested that the rejection of claims 14, 15, 17, 19, and 22 in view of Corral be withdrawn.

IV. Rejection of Claims 1 and 3-6 Under 35 U.S.C. §103(a)

Claims 1 and 3-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Corral in view of U.S. Publication 2003/0099302 to Tong, et al. ("Tong"). However, in light of the above discussion, Corral is not prior art with regard to the Present Application. Therefore, claim 1 is allowable in view of the cited art, as well as claims 3-6 which depend therefrom. Withdrawal of the rejection of claim 1, as well as claims 3-6 which depend therefrom, is respectfully requested.

V. Rejection of Claims 16 Under 35 U.S.C. §103(a)

Claims 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Corral in view of Muller and Ghanadan. However, in light of the above discussion, Corral is not prior art with regard to the Present Application. Therefore, claim 16 is allowable in view of the cited art. Withdrawal of the rejection of claim 16 is respectfully requested.

VI. Rejection of Claims Under 35 U.S.C. §103(a)

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Corral in view of Kupferschmidt. However, in light of the above discussion, Corral is not prior art with regard to the Present Application. Therefore, claim 23 is allowable in view of the cited art. Withdrawal of the rejection of claim 23 is respectfully requested.

VII. Rejection of Claims 24-26 Under 35 U.S.C. §103(a)

Claims 24-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Corral in view of Tong further in view of Kupferschmidt. However, in light of the above discussion, Corral is not prior art with regard to the Present Application. Therefore, claims 24-26 are allowable in view of the cited art. Withdrawal of the rejection of claims 24-26 is respectfully requested.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

Date 1 July 2008

/Christopher P Harris/

Christopher P. Harris
Registration No. 43,660

CUSTOMER No.: 26,294

TAROLLI, SUNDHEIM, COVELL, & TUMMINO L.L.P.
1300 EAST NINTH STREET, SUITE 1700
CLEVELAND, OHIO 44114
Phone: (216) 621-2234
Fax: (216) 621-4072